

Performance Testing the Galileo Arm of the NASA Science Internet

T.C. Clarke and H F Castro (Both at: Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91 109) and N E Cline (Institute of Geophysics and Planetary Physics, University of California at Los Angeles, Los Angeles, CA 90024)

The Galileo spacecraft, consisting of a planetary orbiter and an atmospheric probe, will encounter Jupiter in December 1995 to begin a two year exploration of the planet, its satellites and its magnetosphere, and the interaction between the planet's magnetosphere and its satellites. Galileo will rely on its low gain antenna to transmit science data to Earth. Because of the relatively low data rate of the LGA, sufficient data to make sound scientific decisions regarding observation strategies on subsequent orbits will accumulate late in a particular observation sequence. As a result, once the data have been collected and transmitted to Earth, it is imperative that it be distributed to Galileo scientists spread around the globe as quickly as possible **in order to allow them time to analyze the data** and communicate requirements for subsequent observing and data return strategy to the Project in a timely fashion. The Galileo arm of the NASA Science Internet will be used for this data distribution. It is being tested by collecting JPL-to/from-remote node data transfer and electronic communications performance statistics as a function of time of day. Data transfer performance requirements and test procedure, test configuration and test results will be reviewed.